



Mapping Sustainability Assessment and Reporting in the UK Tertiary Education

A Whole-institution Perspective on Sustainability
Assessment and Reporting Tools

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LIST OF ABBREVIATIONS

AUDE	Association of University Directors of Estates
BREEAM	Building Research Establishment Environmental Assessment Method
EAUC	Environmental Association for Universities and Colleges
EMR	Estates Management Record
EMS	Environmental Management System
ESD	Education for Sustainable Development
FHE	Further & Higher Education
GRI	Global Reporting Initiative
GULF	Global University Leaders Forum, of the World Economic Forum
HESA	Higher Education Statistics Agency
IEMA	Institute of Environmental Management and Assessment
ICT	Information and Communications Technology
ISCN	International Sustainable Campus Network
ISO	International Organization for Standardization
LiFE	Learning in Future Environments (whole institution tool developed by the EAUC)
NUS	National Union of Students
P&P	People and Planet
STARS	Sustainability Tracking, Assessment & Rating System
UI	Universitas Indonesia

DISCLAIMER

It is crucial to highlight that this research does not endorse any of the tools which were chosen on the basis of frequency of use and importance to EAUC members. The ‘Strengths of Each Tool’ section is written purely on the basis on how it relates to the LiFE framework and does not constitute a critique of the actual tool itself. We thank the tool owners who provided access to their criteria for the purpose of this research.

FOREWORD

At the best of times the multi-dimensioned thing we call sustainability can be confusing. Not least the myriad of ever increasing performance improvement tools, quality standards and reporting accreditations which aim to help but often leave sustainability leaders feeling overwhelmed and our colleagues and students none the wiser.

Is it possible to develop criteria across these tools which use a common methodology, translate them into the same language and produce a single, engaging, simple to understand and to communicate indicator of whole-institution sustainability performance?

EAUC commissioned two graduate researchers, Katerina Kosta and Hassan Waheed to ask that very question and this report is the result.

It's early days for this work but it does look promising. Its strength is its efficiency in utilising the external accreditations many of our member institutions already have. Sustainability leaders are busy people. A bonus of this approach is that the accreditations can be added to with in-house tools and programmes. The result is a powerful, single, whole-institution picture.

For this research, the LiFE Framework was used as it encompasses the core aspects of a learning institution - estates and operations, teaching and research, leadership and governance and partnership and engagement. While an increasing number in the sector are using the LiFE Framework to lead their institution's sustainability strategy, the researchers in this paper present a radical and efficient approach to next generation whole-institution performance improvement and reporting. In the process, they have made some clear LiFE update recommendations.

Both the researchers and my view is that if we can build one single simple picture of a university or college's sustainability performance, this should profoundly help it communicating and getting credit for its achievements, build wider stakeholder support, help to identify and address performance gaps and build more cross organisation motivation and momentum to do even better.



Iain Patton
EAUC CEO

EXECUTIVE SUMMARY

A plethora of assessment and reporting ‘tools’¹ has become available for the improvement of sustainability performance in Further and Higher Education(FHE). As the profile of sustainability reporting and assessment continues to rise, the market of FHE sustainability assessment and reporting tools is expanding with more than a hundred ‘tools’ in use by UK FHE institutions, as identified at the initial phase of this research. Navigating through this increasingly complex landscape often seems a daunting task. In response, the EAUC has initiated this project to help sustainability professionals critically evaluate those tools and facilitate their institutions’ orientation in sustainability assessment and reporting.

The project has achieved three main results:

- Firstly, tools of importance to the UK FHE sector have been identified and are presented in the form of a guide providing an overview of each (pp. 11-30).
- Secondly, these diverse tools have been ‘mapped’ under a whole institution approach framework, as modelled by LiFE (a self-assessment and reporting mechanism developed by the EAUC). They are colour coded according to their level of alignment with the LiFE criteria. This ‘mapping’ allows identification of emphases or gaps in the FHE sustainability coverage for each tool. Institutions are thus provided with a whole institution visual analysis of the scope and impact of tools they might have in place or are considering adopting. (Appendices A and B display these maps).
- Thirdly, a ‘Dashboard’ has been developed to compile all the tools and systematize their comparison and analysis. The dashboard tools also include an allocated score on the basis of its coverage of the whole institution sustainability, as defined by LiFE. (Section Dashboard Methodology: pp. 9-10). The Dashboard provides a mechanism for creating customised ‘baseline’ maps which will include all an institution’s tools to identify gaps and further drive performance (Appendix A)

Our study features alternative tools that go beyond eco-efficiency, addressing areas of FHE sustainability such as teaching and research. Having said that, it is crucial to stress that this research does not endorse any of the tools, which were chosen on the basis of their frequency of use and importance to the EAUC members. In other sectors, there is a tendency for tools to harmonize with each other, creating a common language of indicators which enables institutions to better communicate and compare their sustainability performance. We have tried to do the same for the FHE sector. The EAUC will continue to work closely with institutions through an approach which recognises the importance of both external tools and internal programmes to performance improvement, assessment and reporting. This research also communicates the merits of combining both internal and external approaches within a whole institution framework. In the spirit of the EAUC’s approach, we take this opportunity to highlight that the success of this project is impingent upon the support and participation of our member institutions. Thus, we invite feedback, ideas and contributions which will help to shape this co-creation between the EAUC and its members. To get involved or for further information, please contact Iain Patton at info@eauc.org.uk.

The research team: Katerina Kosta has won a scholarship to launch her PhD project on *Sustainability Reporting* at Oxford Brookes University while Hassan Waheed is a graduate of the MA in *Sustainable Development* by the University of Edinburgh.

¹ The collective term ‘tools’ will be used throughout this report to denote: reporting mechanisms, guidelines, standards, accreditations, frameworks and rankings utilized for sustainability management, reporting or assessment.

INTRODUCTION

Increasingly, as part of adopting best practices for quality management in FHE, universities and colleges are invited to report on their sustainability performance. The ‘sustainability indicators industry’ currently provides FHE institutions with a plethora of sustainability assessment and reporting tools, most of which were initially developed for business and industry alongside the concept of CSR. Tools specifically designed for the FHE sector make their appearance mostly after 2000. Given their origin, the majority of existing sustainability assessment systems lack indicators addressing educational aspects such as research, teaching or student engagement. In a quest for a whole institution approach to sustainability reporting and assessment, the EAUC initiated the current research project. The aim was to map commonly used tools against a whole institution framework in order to see which areas of sustainability are catered for and which receive relatively little attention. LiFE (Learning in Future Environments) was chosen as the whole institution framework against which to map the tools as it comprehensively embraces most aspects of sustainability in FHE. Table 1 illustrates the four aims set by the research, the rationale behind them and the outcomes achieved.

AIMS	WHY?	OUTCOMES
1. Compile a list of major tools in the sector and provide an overview of each.	Tools are many and diverse, appear incompatible, confusing and a challenge to communicate to stakeholders.	An analysis of important tools for the UK FHE, based on their approach, key strengths and whole institution applicability. (p. 10-30)
2. Use a common criterion to translate and map each tool against a whole institution approach to sustainability.	There is need for an agreed framework facilitating a member institution to assess the scope and relative impact of each tool in the context of a whole institution approach.	LiFE (Learning in Future Environments) was selected to provide this common criterion and whole institution approach maps were created for the 18 tools selected. (p. 7-9)
3. Provide a mechanism for an EAUC member institution to collate an institution map of achieved external tools as a performance improvement baseline.	There is a cross-over in some areas between some tools and gaps in the provision of tools in others. The research facilitates contextualised comparison of additional tools to be considered and a mechanism to identify gaps in order to further drive performance improvement.	An interactive dashboard was created which allows institutions to input all their achieved tools and identify which areas they are strong in and which they may wish to improve on. (p. 9-10)
4. Develop a method to collate and build a whole institution picture of sustainability performance embracing both external tools achieved and internal programmes developed.	Duplication of effort is to be avoided and a link is made between all an institutions’ sustainability actions and needs. Having a comprehensive record of sustainability activity across the institution can act as a blueprint for the creation of a comprehensive and competitive sustainability report.	Pilot institutional maps were created which accommodate not only existing tools but also in-house initiatives providing a holistic image of an institution’s sustainability performance. (p. 30)

Table 1: Aims, rationale and outcomes of the research

BACKGROUND

Sustainability assessment and reporting is becoming the focus of attention especially after the Paris COP21 Climate agreement and launch of the UN Sustainable Development Goals. Both will require coordinated global assessment in order to achieve successful implementation.

Moreover, according to the Global Reporting Initiative, to survive in the next decade, organisations will have to build trust through reporting on transparency, accountability and responsibility (GRI, 2015). Whole institution sustainability assessment and reporting tools can contribute to this direction at a time when the sustainability profile of FHE institutions is becoming an integral part of their general academic reputation.

Exploring sustainability assessment tools for HEIs around the world, Fischer et al. (2015) claim that there is reciprocity between assessing and developing a sustainable university. Sustainability assessment tools systematize activity and help codify initiatives for more efficient communication to various stakeholders. Most importantly, they are *shaping the evolution* of sustainability by establishing implicit normative standards of what a sustainable university should be like (Fischer et al. 2015).

Sustainability assessment and reporting share the same DNA. Whole institution assessment tools appear to be highly compatible with efficient Sustainability Reporting. According to the Green Gown Awards criteria (2016) for the *Sustainability Reporting* category, integrated reporting on sustainability across the institution is expected, accompanied by goal setting, quantification and third party independent verification. Having all an institution's sustainability initiatives and schemes mapped under a holistic framework is conducive to the creation of quality integrated sustainability reports.

In the literature, there is no consensus on how to categorize tools for sustainability assessment while there is limited research on synthesizing indicator approaches, frameworks and initiatives of different scope or scale (Rammel *et al.* 2016, Ceulemans et al. 2015, Ramos & Pires 2013, Disterheft et al. 2012). The current study comes to address this gap by synthesizing the indicators of 18 diverse tools under a single framework.

DATA COLLECTION

The data collection serves the first aim of the study; to create a list of tools important to the sector. A purposive sample was used, as the initial intention was to map tools broadly used by UK FHE institutions. To identify the most frequently adopted of the existing sustainability related tools (standards, guidelines or frameworks), the sustainability websites of UK universities and colleges were searched. Counts of how many times each tool was used were produced to identify the most commonly used ones. The ten most frequently adopted tools were selected and these were complemented with eight more which were of particular interest to EAUC members, as a number of consultation and feedback sessions took place throughout the project. The sample collected was diverse consisting of EMS's (e.g. ISO14001), reporting guidelines (e.g. ISCN GULF charter), rankings (e.g. UI Green Metric), accreditations (e.g. STARS) and student run assessments like the People and Planet University League.

Table 2 illustrates the tools listed in alphabetical order. This list is going to expand in the future as the aim of the EAUC is to map more tools under this whole institution framework. Access to tools that were not publicly available was granted by the tool owners through the EAUC's contact network. All data was collected from January to June 2016.

Tools in the sample
AUDE Green Scorecard
BREEAM
Carbon Trust Standards
EcoCampus
Fairtrade
Food for Life
Green Impact - NUS
GRI G4
ISCN GULF Charter
ISO 14001
ISO 26000
ISO 50001
Procurement Flexible Framework
Responsible Futures - NUS
STARS - AASHE
SustainaBUL - Studenten voor Morgen
UI Green Metric
University League - People and Planet

Table 2: The tools in the sample listed alphabetically.

DATA ANALYSIS

This section addresses the second research aim; the analysis of indicators under a comprehensive framework that would cover as many areas of FHE sustainability as possible. LiFE was selected as a UK-based 'whole institution approach' framework. Using the STARS tool created by AASHE (Association for Advancement of Sustainability in Higher Education) was another alternative of a whole institution approach framework. It was considered appropriate however to use a tool that has been developed to match the needs of the UK FHE sector, providing for UK legislation compliance requirements (e.g. procurement and carbon emissions reduction). LiFE consists of 4 Priority Areas (Figure 1), divided into 14 Frameworks². Each Framework is then broken down into 8 Activity Areas, which are the steps to be undertaken for the full implementation of the criteria.

² LiFE is fully accessible and free for all EAUC members along with support materials. It is available to download online from <http://www.eauc.org.uk/life/self-assessment_tool>. Member's login required for access.

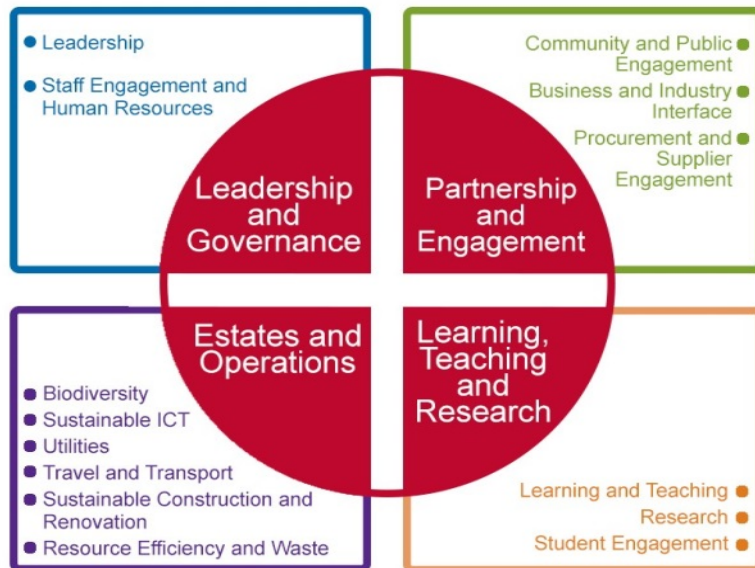


Figure 1: The LiFE Framework

More specifically and in order to see how LiFE was used in this mapping project, its 3-tiered structure is visually explained below: LiFE's top tier (Figure 2) demonstrates the four 'Priority Areas' that make up the whole institution approach to sustainability.

4 Priority Areas	Learning, Teaching & Research	Leadership & Governance	Estates & Operations	Partnership & Engagement
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Figure 2: LiFE's 4 Priority Areas

In the second tier (Figure 3), these 4 Priority Areas are divided into 14³ different 'Frameworks', these are the working areas which can be subject to specific policies and strategies.

4 Priority Areas	Learning, Teaching & Research			Leadership & Governance		Estates & Operations						Partnership & Engagement		
14 Frameworks	Research	Learning & Teaching	Student Engagement	Leadership	Staff Engagement & PR	Biodiversity	Sustainable ICT	Utilities	Travel & Transport	Sustainable Construction & Renovation	Resource Efficiency & Waste	Community & Public Engagement	Business & Industry Interface	Procurement & Supplier Engagement

Figure 3: LiFE's 14 Frameworks

Finally, in the third tier, these 14 Frameworks are further broken down into 8 'Activity Areas' each (8 Activity Areas per Framework⁴). These Activity Areas are the actual working points of the LiFE tool, and they are replicated for each Framework. Thus in total, the LiFE template consists of 112 total Activity Areas to work through (Figure 4):

³ The FE version of LiFE consists of 13 Frameworks as Research is not an applicable criterion.

⁴ The only exception to this rule is the Procurement Framework, which borrows its 'Activity Areas' structure from the Procurement Flexible Framework Tool.

4 Priority Areas	Learning, Teaching & Research			Leadership & Governance		Estates & Operations						Partnership & Engagement		
14 Frameworks	Research	Learning & Teaching	Student Engagement	Leadership	Staff Engagement & PR	Biodiversity	Sustainable ICT	Utilities	Travel & Transport	Sustainable Construction & Renovation	Resource Efficiency & Waste	Community & Public Engagement	Business & Industry Interface	Procurement & Supplier Engagement
8 Activity Areas														
Policy and Strategy														
Action Planning														
Stakeholder Engage														
Measurement														
Communication														
Training and Support														
Implementation														
Link to Curriculum														

Figure 4: LiFE's 112 Activity Areas

The selected 18 'tools' were deconstructed to their individual criteria which were then placed in one of the 112 Activity Area cells of the LiFE framework. A pilot mapping showed that the external indicators - coming from tools with different orientations and purposes - did not completely accord with the LiFE indicators. The criteria to be mapped ranged from 'hard' quantitative indicators to 'soft' descriptive criteria that accommodated more than one interpretation. It was thus decided to colour code each external criterion according to its level of alignment with the LiFE indicators. Bronze cells indicate 0-33% alignment, Silver: 34-66% and Gold: 67-100% +. Appendix A contains the colour-coded mapping of the tools.

Tools were mapped under the assumption that the criteria are met to the full at their respective levels. Not all tools were mapped at their different levels. Only EcoCampus was broken down to Bronze, Silver and Gold to give an example of the differences in coverage among the three levels. In the future, the levels of other tools will also be mapped. To enhance the validity of the study two coders were involved in the process. All tools were mapped twice and then subject to cross checking to eliminate discrepancies. For certain qualitative indicators, consensus had to be reached between the two coders on the level of alignment of each criterion with LiFE (whether it was Bronze, Silver or Gold) as well as on the interpretation of LiFE definitions. This illustrates the value of two coders in mapping future tools, as this 'criterion-by-criterion' cross-checking reduces errors and increases reliability. Appendix A displays all these tool maps individually, while Appendix B displays all the tools compiled together into an 'Integrated Map' to aid comparisons. The Integrated Map offers a useful visualisation of all the tools' criteria, highlighting which of the LiFE 14 FHE sustainability areas are commonly addressed by indicators and which are rather overlooked (Appendix B). The Integrated and individual maps address the second aim: to enable institutions to conduct a comparative analysis of the tools.

DASHBOARD METHODOLOGY

The next step aimed at satisfying the third research aim: to provide members with a better 'whole institutional' understanding of how these tools translate into their own circumstances. LiFE has a scoring methodology and it was considered pertinent to use the same methodology to score and award the different tools on their level of alignment against LiFE.

Reflecting the challenge of implementation, LiFE offers different weightings for the eight Activity Areas under each of the Frameworks, as seen in light blue in Figure 5. For instance, 'Implementation' is given 20 points while 'Communication' is given 5 points with the weightings of all eight activity areas adding up to 100. Depending on whether the cells in the individual maps were Bronze, Silver or Gold they were allocated 33%, 66% or 99% of the overall LiFE weighting points. In Figure 5, BREEAM is used as an example. It was Silver in most of the 'Biodiversity' activity areas and thus received 66% of the points in those cells.

FRAMEWORK TOTALS

Points of all activity areas were added up under each framework (Figure 5). In order to reward tools that achieved less than 33%, the EAUC decided on scoring thresholds for the dashboard as follows (Table 3).

1 - 19 points	Starting journey
20 - 39 points	Bronze
40 - 59 points	Silver
60 - 100 points	Gold

Table 3: Dashboard score bands

BREEAM for example (Figure 5), received 50 under 'Biodiversity' and according to Table 3, 50 points are recognized as Silver. In the Sustainable ICT Framework however, BREEAM received 13.33 points, this is recognised as a 'Starting journey', meaning that some activity is taking place in this area, which can potentially become more comprehensive.

PRIORITY AREA TOTALS

The next step involved deriving Priority Area scores from the Frameworks. This was a straightforward average of the Frameworks that belong to each Priority Area (see Figure 3). So BREEAM in this example achieved 41 in 'Estates and Operations', which is the average of the framework totals.

The only exception to the above rule is the 'Learning, Teaching and Research' priority area which LiFE treats in a special way, given its importance for the sector. Learning, Teaching and Research consists of 3 frameworks and a 50% weighting is given to the 'Research' framework, a 25% to 'Learning & Teaching' and 25% to 'Student Engagement'. So the Priority Area score in this case is calculated according to these weightings and not as the average of the three frameworks. In this way LiFE stresses the unique contribution of Research, Learning, Teaching and Student Engagement in the achievement of 'whole institution' sustainability.

WHOLE LIFE SCORE

With the Priority Area scores derived, a final LiFE score was created using a plain average of the 4 Priority Areas (Figure 5). For instance BREEAM received a 'Starting journey' score as it is specific to Estates and did not receive points under the Learning, Teaching and Research or Leadership and Governance Priority Areas.

		Priority Area	Estates & Operations					
		Frameworks	Bio-diversity	Sustain-able ICT	Utilities	Travel/Transport	Sustain Construct	Waste & Resource
Activity Areas	Max Score							
	10	Policy & Strategy						
	10	Action Planning	6.66		6.66	6.66	10	6.66
	15	Stakeholder	10			10	15	
	20	Measurement	13.33		13.33	13.33	20	6.66
	5	Communication	3.33			3.33	5	
	5	Training & Support	3.33				5	
	20	Implementation	13.33	13.33	13.33	13.33	20	13.33
	15	Link to curriculum						
Total	100	Framework Totals	50	13	33	47	75	27
		Priority Area Average	41					
		LiFE Whole Institution Score	13					
Starting Journey								

Figure 5: Dashboard scoring for BREEAM

OVERVIEW OF THE TOOLS

This section further elaborates on the first research aim: to bring together major sustainability assessment/reporting tools and explain how they operate against a whole institution framework. The analysis of each tool focuses on three areas:

Approach: this section briefly highlights the background of the tool, its overall scope and purpose.

Strengths: this section assesses the core strengths and unique contributions of each tool in the context of a whole institution approach. It is not assessing the strength of the tool in its own right.

LiFE Whole Institution Comparison: this comparative section sees how the tool fits in the whole institution framework provided by LiFE.

An additional two pieces of information are also added to each tool's analysis in graphic form:

1. The Independently Verified 'sign' is displayed alongside the title in some of the tools' briefs below.



It indicates that achieving the particular tool requires third party certification. For our research this means that the sustainability data submitted by each institution is checked and validated by third party auditors.⁵

The validation procedures vary among tools. An interesting case in terms of independent verification is that of STARS. The validation measures implemented by STARS include all reported data being accompanied by a cover letter from the university's president, chancellor or other high ranking executive affirming that the submission has been checked for accuracy. Data is then made publicly available for public scrutiny on the STARS website. In case of erroneous or inconsistent information there is an appeals process and individuals are encouraged to fill in a Data Enquiry Form. In spite of all these measures it is clearly stated that data is self-reported and not verified by AASHE staff. Due to this statement by AASHE, the independent verification badge does not appear next to STARS.

2. The graphic template under the tool's analysis is used to summarise the LiFE scoring of each tool in a condensed manner. The LiFE Whole Institution score is displayed in the last row.

The colours and designations are aligned with the Dashboard methodology:

No Award means that none of the tool's criteria address that priority area.

Starting stands for Starting Journey and signifies limited activity in this priority area.

Bronze signifies that more LiFE criteria have been met by the tools indicators.

Silver means that the tools criteria are strongly aligned with LiFE.

Gold translates into very close alignment between the tool's and LiFE's indicators

⁵ Here it must be said that the independent verification sign does not appear next to the UI Green Metric as on their website they state that there is no validation process currently in place. The ranking is based on the universities' self-assessment on the basis of a questionnaire and deferral to external ranking.

AUDE GREEN SCORECARD

APPROACH

The Green Scorecard was commissioned by the Association of University Directors of Estates (AUDE), and developed by ARUP. It is particularly oriented to operations and campus sustainability, aimed at supporting estates staff. Furthermore, it defers to external operations tools on a number of occasions; for example, ISO 50001 for energy, the Procurement Flexible Framework for procurement and BREEAM for buildings. The Green Scorecard has been mapped at its strongest level, which assumes the highest scores in all criteria (including all optional criteria).

STRENGTHS

The Green Scorecard makes use of data which is already available and part of established reporting mechanisms to HESA. As such, the timeline for completing the Green Scorecard has been aligned to follow the annual EMR data collection and uploads. This integration saves time and makes better use of information already available. The Green Scorecard has a number of optional criteria, in addition to the core elements that an institution can choose to include. This offers flexibility to institutions which wish to concentrate on the major elements and steer away from additional elements, or do not see the additional elements as applicable in their circumstance. Finally, the Green Scorecard's web-portal visually depicts data in a way that allows for it to be easily understood and communicated. Additionally, it enables comparison of these graphics and data with other institutions through the web-portal. Institutions can communicate, share knowledge and compare their campuses through the indicators provided.

LIFE WHOLE INSTITUTION COMPARISON

The Green Scorecard focusses mainly on campus sustainability, and maps almost entirely into the LiFE 'Estates and Operation' Priority Area, almost to the exclusion of other areas (i.e. the Green Scorecard takes an operations-based approach, not a whole institution approach). The Green Scorecard also features a number of aspects which could be considered as potential gaps within LiFE. Though, all of these can be viewed as potential additions or expansions to extant LiFE Frameworks. These 'gaps' include renewable energy generation/purchase, and reducing scope 1, 2 & 3 emissions. LiFE does not specify either, but these activities would follow through 'Sustainable ICT', 'Utilities', and 'Travel & Transport' Frameworks. Similarly, landscaping, climate change adaptation and water management are aspects of the Green Scorecard which would be expansions of 'Biodiversity' and/or 'Sustainable Construction' in LiFE.

Learning, Teaching & Research			Leadership & Governance		Estates & Operations						Partnership & Engagement		
Research	Learning Teaching	Student Engagem	Leader-ship	Staff Engagem	Bio-diversity	Sustain-able ICT	Utilities	Travel/Transpor	Sustain Construc	Waste & Resourc	Public Engage	Business Interface	Procure-ment
No award	No award	No award	No award	Starting	Silver	Starting	Silver	Silver	Gold	Silver	No award	No award	Starting
Starting			Starting		Starting						Starting		

APPROACH

There are 2 BREEAM standards of interest: (1) BREEAM for new buildings, and (2) BREEAM for refurbishments and fit-outs. The latter version is based on, and is very similar to the former, except where certain details are modified to reflect requirements of a refurbishment, and others are excluded since they refer to new buildings. For this research, there are not significant enough differences between the two standards to map them separately. Thus the larger and more comprehensive New Build standard is mapped. The BREEAM accreditation is highly technical, detailed and requires external assessment for verification.

STRENGTHS

BREEAM is the primary sustainable construction accreditation in the UK, developed and managed by the Building Research Establishment. It is currently widely accepted and adapted in the FHE sector with few perceivable replacements and in recent years has gained considerable attention, reputation, and thus favour among many institutions. Sustainable construction is an area which requires in-depth and technical guidance which can often be relatively specific, and must conform to regulation. BREEAM provides this guidance in abundance; when using BREEAM, institutions are guided towards covering all regulatory aspects, as well as provided with levelled options of going beyond to deliver sustainable building and refurbishments which are accredited to an internationally accepted standard.

LIFE WHOLE INSTITUTION COMPARISON

BREEAM is a very technical tool. It is the UK's leading Sustainable Construction accreditation, and awarded Gold under the Sustainable Construction Framework. Importantly, these elements go well beyond a LiFE Gold. For example, BREEAM's 'Management' section covers much more than 'Action Planning' for Sustainable Construction in LiFE. In fact, almost all BREEAM criteria go beyond LiFE in detail and depth. Though it scores only Silver Awards in Frameworks outside of Sustainable Construction because the certification only addresses specific projects where BREEAM is applied and does not address campus-wide action. It is not a FHE sector specific tool, thus does not address the Link to curriculum Activity Area in LiFE. BREEAM does not score 100% against LiFE in the Sustainable Construction Framework, but still achieves Gold since it attains Gold in the other 7 Activity Areas.

Learning, Teaching & Research			Leadership & Governance		Estates & Operations						Partnership & Engagement		
Research	Learning Teaching	Student Engagem	Leader-ship	Staff Engagem	Bio-diversity	Sustain-able ICT	Utilities	Travel/Transport	Sustain Construct	Waste & Resource	Public Engage	Business Interface	Procure-ment
No award	No award	No award	No award	No award	Silver	Starting	Bronze	Silver	Gold	Bronze	No award	No award	Bronze
No award			No award		Silver						Starting		
Starting													



APPROACH

There are three Carbon Trust Standards of relevance: 'Emissions' (V1_4), 'Waste' and 'Water' (V2_1). They are not designed for any particular sector; they are broad enough to apply to most organisations with physical operations, including institutional campuses. The three standards follow the same structure in which their criteria lead an organisation towards accreditation from the Carbon Trust. For the purposes of this research, the standards have been collectively mapped, or 'integrated' together into one map.

STRENGTHS

The Standards are relatively flexible, allowing organisations to define their own boundaries in terms of both the organisational structure (which subsidiaries to include) and physical locations (which buildings to include). The Standards also allow for flexibility in setting targets, but require diligence on the part of the institution to ensure they are appropriate and meaningful. This freedom means that the progress made through the Standard is impingent upon the potential of an institution, and not based upon prescriptive criteria. The strength of internal aspirations will likely determine progress achieved through the Standard. In other words, the potential of the Standard is fuelled by an organisation's ambitions. Independent verification assures that the organisation's full potential is being met before accreditation is provided.

LIFE WHOLE INSTITUTION COMPARISON

The Standards are particularly results oriented, and perform extremely well against the 3 frameworks they share themes with, which are Utilities, Travel & Transport, and Waste & Resource Efficiency. They address very little outside of their remit of the themes of 'Emissions', 'Water', and 'Waste', thus the Standards' criteria rarely map outside of the 3 Frameworks in their LiFE maps.

Finally, the Standards remain particularly in-depth and focussed, often going beyond LiFE on many occasions. However, the Standards do not address the Activity Areas of Link to Curriculum (since it is not FHE specific) and Stakeholder Engagement when mapped onto the whole institution approach.

Learning, Teaching & Research			Leadership & Governance		Estates & Operations						Partnership & Engagement		
Research	Learning	Student	Leader-	Staff	Bio-	Sustain-	Utilities	Travel/	Sustain	Waste &	Public	Business	Procure-
Teaching	Engagem	ship	Engagem	diversity	able ICT	Transpor	Construc	Resourc	Engage	Interface	ment		
No award	No award	No award	No award	Starting	No award	Starting	Gold	Gold	Starting	Gold	No award	No award	Bronze
No award			Starting		Starting						Starting		



APPROACH

EcoCampus is a national (UK) Environmental Management System (EMS), specifically designed for HE. Initially set up and funded by HEFCE, it is now a collaborative project between Nottingham Trent University and Loreus Ltd. The scope of this EMS is defined as consisting of the eight areas: - Institutional context - Energy & Water - Transport - Waste management - Outsourced Processes - Interested parties - Emission and Discharges - Sustainable Procurement and Sustainable Curriculum. In order to accommodate institutions at different levels of their sustainability journey, certification is provided at four levels: Planning (Bronze), Implementing (Silver), Operating (Gold), Checking and Correcting (Platinum). For the purposes of our research, EcoCampus was mapped at the Bronze, Silver and Gold levels.

STRENGTHS

It is a well-recognised EMS with 31% of the UK universities participating in it. The package provides consultancy, e-learning and software combined with third party certification by NQA. Participants are walked through the process of designing, implementing and auditing a fully operational EMS while a number of CPD workshops are offered in key areas like environmental law, auditing and sustainable procurement. Its greatest strength lies in the fact that the four awards lead to ISO14001 certification, a motivating factor for many FHE institutions.

LiFE WHOLE INSTITUTION COMPARISON

EcoCampus addresses most of the LiFE Frameworks with at least a Bronze. However, it noticeably does not address Frameworks important for the FHE, such as Student Engagement, Research or Community & Public Engagement.

While EcoCampus focuses on managing the environmental impact of the organisation, LiFE adopts a more FHE specific approach giving a lot of weight to Research and Engagement.

Learning, Teaching & Research			Leadership & Governance		Estates & Operations						Partnership & Engagement		
Research	Learning Teaching	Student Engagem	Leadership	Staff Engagem	Bio-diversity	Sustain-able ICT	Utilities	Travel/Transport	Sustain Construc	Waste & Resourc	Public Engage	Business Interface	Procur
No award	Gold	Starting	Gold	Silver	Bronze	Starting	Gold	Gold	Bronze	Gold	No award	Bronze	Gold
Starting			Gold		Silver						Bronze		



APPROACH

Fairtrade focusses only on Fairtrade procurement. It is a small tool, designed as a 5-page basic application form to apply for Fairtrade institutional status. It has five main goals which encourage progression of Fairtrade within the institution. Within that, there are elements which link to promoting Fairtrade through communications, linking it to student engagement and featuring it in the curriculum if and where possible. Though the main element remains procuring, serving and selling certain Fairtrade products.

STRENGTHS

Fairtrade is a powerful 'brand', and it is relatively straightforward to work through the goals to attain Fairtrade status. This is one of the key things an institution can do to attain some credit and begin its journey towards sustainability. Most FHE institutions have already attained Fairtrade status. Institutions are generally very receptive to Fairtrade, usually expressing honour to hold the status, and protecting it to assure its continuance. If the Fairtrade Foundation intended, there is also scope to evolve and expand the standard in order to attain a greater impact at institutional or sector level. A final area of interest is that Fairtrade is one of the few tools which explicitly require direct communication and cooperation between the institution and its students' union to attain a sustainability goal. Thus Fairtrade can serve as a gateway to cooperation between both.

LIFE WHOLE INSTITUTION COMPARISON

Fairtrade is one of the smallest and most focused tools mapped in this project. It covers a very concise area in LiFE, limited to the Procurement framework and some minor elements very briefly addressed in Student Engagement and Learning & Teaching Frameworks.

Learning, Teaching & Research			Leadership & Governance		Estates & Operations						Partnership & Engagement		
Research	Learning Teaching	Student Engagem	Leader-ship	Staff Engagem	Bio-diversity	Sustain-able ICT	Utilities	Travel/Transpor	Sustain Construc	Waste & Resourc	Public Engage	Business Interface	Procurement
No award	Starting	Starting	No award	No award	No award	No award	No award	No award	No award	No award	No award	No award	Silver
Starting			No award		No award						Starting		
Starting													



APPROACH

Food for Life, developed by the Soil Association, is a UK standard for sustainable food procurement and catering. It offers 3 levels (Bronze, Silver, and Gold) which assist progression towards increasingly environmentally sustainably and ethically responsible food. These aspects include meeting animal welfare standards, increasing healthy and unprocessed foods, decreasing and/or eliminating processed and unhealthy foods, avoiding GM foods, avoiding additives, preferring seasonal foods, using local sources, attention to food safety and reference to other standards like Fairtrade, Freedom Food, LEAF, and MSC/MCS Fish. The 2015 version was mapped.

STRENGTHS

Food for Life is a sustainable food tool for the sector, with a FHE institution-specific guide. Since food is one of the most complicated areas in sustainability, and one of the most popular to engage with, this tool covers a gap that the Flexible Framework and Fairtrade do not address. Many institutions see this as an important and appealing tool. It certainly addresses sustainable food procurement holistically by tying all major concerns and issues in the area into one simple guide. Additionally, the Soil Association works closely with organisations when implementing the standard. Thus, there is potential for knowledge-exchange, learning, and collaborations.

LIFE WHOLE INSTITUTION COMPARISON

Food for Life is action-oriented and focuses on measurement, training and implementation. In comparison, there is less focus on strategy, policy and action planning as well as communication or link to curriculum regarding sustainable food and procurement. Comparatively, explicit links to other areas such as student engagement, staff engagement, education, research and biodiversity are missing (e.g. growing on campus). Though it could certainly complement those activities, it is an opportunity for using food to engage. Although, Food for Life addresses elements which can be seen as 'gaps' in LiFE. A significant element of an institution's carbon intensive activity is food (the procurement, consumption, retail and wastage of food). This tool covers it in reasonable detail. Food for Life provides guidance that may take institutions to levels (with respect to food) that LiFE may not.

Learning, Teaching & Research			Leadership & Governance		Estates & Operations						Partnership & Engagement		
Research	Learning Teaching	Student Engagem	Leader-ship	Staff Engagem	Bio-diversity	Sustain-able ICT	Utilities	Travel/Transpor	Sustain Construc	Waste & Resourc	Public Engage	Business Interface	Procure-ment
No award	No award	No award	No award	No award	No award	No award	No award	No award	No award	No award	No award	No award	Silver
No award			No award		Starting						Starting		



APPROACH

Led by the NUS, Green Impact is a sustainability accreditation scheme used by universities, colleges and local authorities. A bespoke toolkit full of actions is distributed to take in teams which are provided with support. After the completion of the Bronze criteria, teams have two options; either continue with the workbook or complete a project, the topic of which is determined by the team. New for 2015/2016 is the Platinum Plus award, which requires all platinum criteria to be completed plus recruitment of a new team or mentoring a struggling one, in order to develop the Green Impact network across the university. At the end of the year, achievements are rewarded with Bronze, Silver, Gold, Platinum and Platinum Plus awards. For the purposes of this research Green Impact was mapped at the Bronze level.

STRENGTHS

Green Impact provides a practical framework with achievable and quantifiable criteria that are easy to implement. It also constitutes a great engagement, communications and implementation tool for students and staff. Students are recruited to become Green Impact Auditors and assist with the delivery and verification of the programme. Each volunteer auditor receives IEMA - accredited audit training.

LIFE WHOLE INSTITUTION COMPARISON

Green Impact covers many of the LiFE Student, Staff and Community Engagement criteria while it also addresses indicators from Estates and Operations. Yet, overall the Green Impact indicators do not go into the detail and depth of the LiFE methodology. When undertaking a project – the scope of which is determined by each individual team – more indicators can potentially be covered according to the nature of the project. A criterion included in Green Impact, which is missing from LiFE is Staff and Wellbeing (B020). It is always worth checking what an organisation means when they claim to have achieved Green Impact, since activity can be specific to an office, floor of a building, whole department or the entire institution.

Learning, Teaching & Research			Leadership & Governance		Estates & Operations						Partnership & Engagement		
Research	Learning Teaching	Student Engagem	Leader-ship	Staff Engagem	Bio-diversity	Sustain-able ICT	Utilities	Travel/Transpor	Sustain Construc	Waste & Resourc	Public Engage	Business Interface	Procure-ment
No award	No award	Starting	No award	Bronze	Starting	Starting	Starting	Starting	No award	Bronze	No award	No award	Starting
Starting			Starting		Starting						Starting		



GLOBAL REPORTING INITIATIVE - GRI G4

APPROACH

GRI G4 is a corporate based, globally recognized standard for sustainability reporting. The GRI has specific variations for certain sectors but FHE is not one of the sectors with specifically designed reporting guidelines, thus institutions would not report any sector-specific aspects and only against generic guidelines. GRI G4 has two levels: ‘General Standard Disclosures’ and ‘Specific Standard Disclosures’. The former group of disclosures consists of basics necessary and highly recommended for reporting in order to comply against the basic reporting standard. Whereas the latter group consists of criteria exploring more in-depth factors pertaining to sustainability which an institution has the option of working through. The GRI was mapped against LiFE at the in-depth level that included both disclosure levels.

STRENGTHS

The G4 guidelines are very precise, systematic and flexible enough for any type of organisation of any size. They require quantitative and qualitative information to describe an organisation’s operational profile, management approaches and its economic, environmental and social performance. They are rigorous at the organisational and strategic level, thus cover many aspects of leadership, organisational development, and systems/processes/structures in detail. It maps extremely well against the LiFE Leadership framework, and can be seen as a strong leadership-oriented framework in its own right. Developed by multiple stakeholders (investors, NGOs, governments etc.) through a consensus based process they are widely used and recognised globally.

LIFE WHOLE INSTITUTION COMPARISON

There are two main elements to consider regarding its comparison with the LiFE whole institution approach. Firstly, G4 focuses on rigorous data collection and transparency, thus surpasses LiFE in the Measurement and Communication Activity Areas of almost all Frameworks it addresses. Secondly, the standard does not focus on implementation or requirements to take actions (to ‘do things’), it only obligates reporting on areas. Thus, it does not fully map against Implementation activity area. Finally and most importantly, being non FHE specific, the GRI G4 does not address the material aspects of Research and Teaching and thus receives no points under these LiFE areas.

Learning, Teaching & Research			Leadership & Governance		Estates & Operations						Partnership & Engagement		
Research	Learning Teaching	Student Engagem	Leader-ship	Staff Engagem	Bio-diversity	Sustain-able ICT	Utilities	Travel/Transpor	Sustain Construc	Waste & Resourc	Public Engage	Business Interface	Procure-ment
No award	No award	Starting	Gold	Bronze	Starting	Starting	Starting	Starting	Starting	Bronze	Bronze	No award	Bronze
Starting			Gold		Bronze						Bronze		
Bronze													



ISCN GULF CHARTER

APPROACH

The ISCN Gulf Charter is a reporting framework with 3 main ‘principles’ to report against: sustainable buildings (which includes the suggested topics of utilities, waste and sustainable construction); campus-wide master planning (suggested topics include emissions, transport, food, social welfare and biodiversity); and lastly a living laboratory approach (covering facilities, research, education and/or outreach topics). Institutions have plenty of freedom on what they report (i.e. the suggested topics are not standardised; all are optional). The report must follow a semi-standardised structure which articulates (1) the management approach taken, (2a) the measurement, performance and targets information, and finally (2b) a description of the initiatives in action to further the principle. This structure is applied across the three principles uniformly, and thus manifests into its LiFE map as a uniform pattern. The January 2015 version is mapped.

STRENGTHS

The Charter provides helpful guidelines, and its flexibility allows institutions to interpret them according to their own circumstances. If applied prudently, the charter provides important elements to consider in its unique 3 principle approach. The series of topics for sustainability includes sustainable laboratories, diversity, health & safety, access to education, discrimination, wellbeing, policy engagement, and links between academia and operations. Furthermore, it aims to encourage a strong approach to Living Labs by incorporating it as one of the three main principles. This encourages institutions to consider it as a crucial pillar of sustainability which is to be linked across academia, operations and community engagement.

LIFE WHOLE INSTITUTION COMPARISON

The Charter is structured uniquely. Institutions are required to report on the ‘principles’, with complete flexibility on the scope and boundaries. An institution can choose the number and types of topics to report, with examples suggested. In this respect the Charter affords a lot of flexibility. LiFE is different in that all 14 Frameworks are expected to be eventually completed for a whole institution approach, whereas the Charter can be completed with a relatively small number of topics reported. This level of freedom with the Charter also means a variety of standards is to be expected from different institutions, varying from rudimentary to thorough.

Learning, Teaching & Research			Leadership & Governance		Estates & Operations						Partnership & Engagement		
Research	Learning Teaching	Student Engagem	Leader-ship	Staff Engagem	Bio-diversity	Sustain-able ICT	Utilities	Travel/Transpor	Sustain Construc	Waste & Resourc	Public Engage	Business Interface	Procure-ment
No award	No award	Starting	Gold	Bronze	Starting	Starting	Starting	Starting	Starting	Bronze	Bronze	No award	Bronze
Starting	Starting		Gold					Bronze				Bronze	
Bronze													



ISCN
International Sustainable Campus Network

APPROACH

ISO 14001 is an Environmental Management System (EMS) that helps organisations identify and evaluate their environmental impacts and subsequently effect operational controls to manage those impacts. In order to compare ISO 14001 certified organisations, one must look at how each has implemented the standard since certification can equally apply to a single department or the whole institution, depending on how the institution has defined its scope. Up to now many universities and colleges have achieved ISO 14001 certification but only a few hold it for the whole institution. The ISO 14001 does not take on the responsibility of certification and this role is assumed globally by consulting firms who specialise in training individuals to become ISO 14001 auditors.

STRENGTHS

ISO 14001 provides recognition for institutions since they are certified to an internationally accepted standard. It is a very thorough tool which addresses environmental issues holistically through a systems-based lens. It mostly contains criteria completed through a top-down approach but correspondingly stresses stakeholder engagement to encourage the participation of those involved in the organisation at different levels. The ISO 14001 can very effectively be used to address operational sustainability criteria through one centralised scheme, and has proven to serve many institutions well in this capacity. It also acts as a strategic planning and communication tool as top management commitment is required while staff must be kept informed to make the EMS work. Finally, the tool is flexible due to its malleable scope and boundaries. Institutions can be accredited for specific activities which they choose to include within their EMS.

LIFE WHOLE INSTITUTION COMPARISON

For this research, the ISO 14001 has been mapped against all 6 Frameworks in the Estates & Operations Priority Area as well as the Procurement Framework to demonstrate how it would perform against LIFE if its full potential was exploited.

As it is not specifically designed for the FHE sector, the tool does not contain specific indicators on sustainability research, teaching or student engagement. However, if these aspects are included in its scope, they can potentially be provided for. Moreover, the tool adopts a top-down implementation approach which does not allow many opportunities for student engagement.

By not specifying the activity that a business must include in its EMS, ISO 14001 allows organisations to apply the EMS inconsistently in their operations. This has attracted criticism of its transparency, reproducibility and consistency of application.

Learning, Teaching & Research			Leadership & Governance		Estates & Operations						Partnership & Engagement		
Research	Learning Teaching	Student Engagem	Leader-ship	Staff Engagem	Bio-diversity	Sustain-able ICT	Utilities	Travel/Transpor	Sustain Construc	Waste & Resourc	Public Engage	Business Interface	Procure-ment
No award	No award	No award	No award	No award	Silver	Starting	Bronze	Silver	Gold	Bronze	No award	No award	Bronze
No award			No award		Silver						Starting		
Starting													



ISO 26000

APPROACH

ISO 26000 explores key principles of Social Responsibility (SR) offering guidance on the implementation and communication to various stakeholders. According to ISO 26000 Social Responsibility consists of seven core issues; Organizational governance, Human rights, Labour practices, the Environment, Fair operating practices, Consumer issues and Community involvement. Even though sustainable development is part of the ISO 26000 SR definition, criteria mostly address violation of human rights and laws, as in the example of certain companies outsourcing their operations to developing countries. FHE education institutions are not known as violators of human rights at that level, thus the standard may not be particularly suitable in complementing FHE institutions' sustainability reporting mechanisms. Finally, ISO 26000 is a set of guidelines, voluntary in use and cannot be used for certification like ISO 14001. This lack of certification and auditing means that this system can be adopted and adapted without consistency.

STRENGTHS

The fact that the environment is considered part of social responsibility is well aligned with the three pillar definition of sustainability as environmental, financial and social well-being. Organisations following the ISO 26000 guidance can benefit from the positive reputation created, which is translated into a competitive advantage at a time when customers value ethical business. Moreover, organisations may find themselves in a better place to engage investors, owners, donors, sponsors as well as the media, suppliers or the community in which they operate. The application of ISO 26000 is most pertinent at the Leadership level.

LIFE WHOLE INSTITUTION COMPARISON

Even though the ISO 26000 definition of social responsibility includes the environment as one of its seven core issues, the criteria under Staff Engagement and HR focus mostly on human rights, workers' rights, equality and diversity. This is the reason why it is not given the full points of LiFE in this area as LiFE specifies staff engagement *in and for sustainability*, without specific focus on human rights issues. Some of the human rights criteria of ISO 26000 can be found in an institution's equality and diversity strategy. As the system is not tailored for FHE, it does not provide indicators for social responsibility in education, research or student engagement.

Learning, Teaching & Research			Leadership & Governance		Estates & Operations						Partnership & Engagement		
Research	Learning Teaching	Student Engagem	Leader-ship	Staff Engagem	Bio-diversity	Sustain-able ICT	Utilities	Travel/Transpor	Sustain Construc	Waste & Resource	Public Engage	Business Interface	Procure-ment
No award	No award	Starting	Gold	Silver	Gold	Starting	Bronze	Silver	Bronze	Gold	Gold	Starting	Silver
Starting		Gold		Silver				Silver					
Bronze													





APPROACH

ISO 50001 offers certification, registration and self-declaration of an organisation's EnMS (Energy Management System), outlining energy management practices that are considered to be the best, globally. The standard does not prescribe what the institution's energy policy needs to entail, it just states what the principles for setting an environmental management policy are. It is based on the Plan-Do-Check-Act continual improvement framework and defines the organisation as a complete company or a small part of it as long as it has got control over its own energy use and consumption.

STRENGTHS

ISO 50001 addresses the important issue of energy management in great depth and helps FHE institutions comply with legislation which necessitates energy audits. By identifying and controlling energy usage it effects energy efficiency improvements while managing the risks surrounding future energy supply. The option of conducting an internal instead of an external audit can help organisations with limited budget, even though an internal audit might attract criticism on its validity. The standard provides best practices for energy management which can be scaled up and down to suit the organisation's size or budget. Finally, it offers a high level of compatibility with ISO 14001.

LIFE WHOLE INSTITUTION COMPARISON

The ISO 50001 almost exclusively maps into 2 specific LiFE Frameworks: Utilities and Leadership, with a single criterion in Sustainable Construction and two others under Procurement. The ISO 50001 remains specific and technical by maintaining its boundaries to the topic of energy. Although, the ISO 50001 only maps as Silver under the LiFE Utilities Framework due to the fact that the two tools are structured differently. It is not afforded the credit of Gold within that Framework since it does not address water, the other half of the Utilities Framework. Though it should be noted that the ISO 50001 goes into much more depth than LiFE with respect to energy. But LiFE attempts to account for breadth as much as depth and it does so by structurally coupling energy and water collectively into Utilities.

Learning, Teaching & Research			Leadership & Governance		Estates & Operations						Partnership & Engagement		
Research	Learning Teaching	Student Engagem	Leader-ship	Staff Engagem	Bio-diversity	Sustain-able ICT	Utilities	Travel/Transport	Sustain Construct	Waste & Resource	Public Engage	Business Interface	Procure-ment
No award	No award	No award	Silver	No award	No award	No award	Silver	No award	Starting	No award	No award	No award	Starting
No award			Bronze		Starting						Starting		



⁶ The independent party certification appears only for the cases of external certification. In case of internal auditing ISO50001 cannot be claimed to be independently verified.

STARS (version 2.1)

APPROACH

The Sustainability Tracking Assessment and Rating System was initially designed for universities and colleges in the US. It comprises 63 credit bearing criteria arranged into 4 main groups: ‘Academics’, ‘Engagement’, ‘Operations’, and ‘Planning & Admin’. Participation is voluntary and entails gathering data and reporting it publicly. Institutions are awarded a Bronze, Silver, Gold or Platinum award and if they do not wish to pursue accreditation, they can participate as STARS Reporters. Points are allocated by a panel of the STARS steering committee and AASHE staff, who review portions of the reports. However, it is clarified that data is self-reported and *not verified* by AASHE⁷. Validity is secured by having university presidents signing the report, which is made available on the STARS website allowing for wide public scrutiny. For the purposes of this research, the current version of STARS (2.1) was mapped.

STRENGTHS

A major strength of STARS is its level of popularity across the USA, serving hundreds of institutions and attaining great influence on the development of a whole institution approach to sustainability. Another strong point is the diversity of the topics STARS addresses in depth which makes it one of the *top* whole institution approach tools mapped by this research. Extremely sensitive to equality and diversity as well as employee wellbeing issues, it provides as much for the social as for the environmental aspect of sustainability. Moreover, as a forward thinking assessment system STARS provides for initiatives not covered by its descriptors by allocating Innovation and Leadership points.

LIFE WHOLE INSTITUTION COMPARISON

STARS criteria are not uniform like the 8 LiFE Activity Areas neatly arranged across the 14 Frameworks, but arranged non-uniformly. Thus certain groups are smaller (the ‘Academics’ group is the smallest with 11 criteria) than others (the ‘Operations’ group with 23 criteria). Examples accompany most of the criteria, which prove to be very helpful in illustrating what STARS is attempting to lead to through each criterion. As a whole institution approach, it scores well across LiFE, attaining Gold in all Frameworks except Biodiversity (Silver) and Business & Industry Interface (Bronze). Additionally, it covers some interesting elements that LiFE does not yet address. Examples include Living Labs, participation in public policy, sustainable food and wellbeing.

Learning, Teaching & Research			Leadership & Governance		Estates & Operations						Partnership & Engagement		
Research	Learning Teaching	Student Engagem	Leader-ship	Staff Engagem	Bio-diversity	Sustain-able ICT	Utilities	Travel/ Transpor	Sustain Construc	Waste & Resource	Public Engage	Business Interface	Procure-ment
Gold	Gold	Gold	Gold	Gold	Silver	Bronze	Gold	Gold	Gold	Gold	Gold	Bronze	Gold
Gold													



⁷ <https://stars.aashe.org/pages/participate/correcting-mistakes.html>



APPROACH

The University League constitutes a 'whole institution approach', though the 2015 version is substantially smaller and less prescriptive than its predecessor. It has significant parts either removed, downsized, or changed as part of an overhaul of the methodology. However, the methodology remains unchanged in aspects which can be considered as 'pillars' of the League. These include a section dedicated to **divestment**, requirement to have all data easily accessible online, and a strong Education for Sustainable Development component. NOTE Subsequent to this research a new version of University League was launched. This will be mapped in a future phase of this research.

STRENGTHS

The University League is an HE specific tool designed to encourage institutions to assure their key sustainability data is transparent and made available online. This allows data to be subjected to public scrutiny, especially if progress is not evident. At the HE sector level, it ranks institutions on a league table to raise the profile of and competition over sustainability. Institutions which perform well according to University League methodology are rewarded with recognition and a reputation. There is also potential that institutions which do not perform well in the University League could be galvanised to improve their rankings. A team of People & Planet and trained volunteer auditors evaluate each university and allocate scores. University scorecards are marked twice to maintain rigour and consistency. Institutions are given the opportunity to review their scores and make an appeal. Over half the criteria is scored using data from the Higher Education Statistics Agency. The rest is scored based on information made public by the university itself.

LIFE WHOLE INSTITUTION COMPARISON

The strongest component of the University League is its focus on Education for Sustainable Development, which maps particularly strongly against the Learning & Teaching LiFE Framework to achieve 100%. It also maps very well against Student Engagement and Staff Engagement Frameworks. Its strength is in its consistency to address uniformly Policy & Strategy, and for the most part Action Planning and Stakeholder Engagement in almost all Frameworks it maps onto.

The University League noticeably excludes research from its methodology, an element that the previous version included. Perhaps in an effort to reposition the University League, some major elements may have been reconsidered. Research is certainly such a component. Another such aspect is identified as Business & Industry Interface, which is an almost entirely neglected subject. However, alongside missing these elements, it also covers topics which are rarely addressed by other tools. These include responsible investment, treating food as a specific category, and working with the Students' Union.

Learning, Teaching & Research			Leadership & Governance		Estates & Operations						Partnership & Engagement		
Research	Learning Teaching	Student Engagem	Leader-ship	Staff Engagem	Bio-diversity	Sustain-able ICT	Utilities	Travel/Transpor	Sustain Construc	Waste & Resource	Public Engage	Business Interface	Procure-ment
Starting	Gold	Gold	Silver	Gold	Gold	Starting	Gold	Gold	Gold	Gold	Silver	Starting	Gold
Silver			Gold		Gold						Bronze		
Silver													



UNIVERSITY
LEAGUE

PROCUREMENT FLEXIBLE FRAMEWORK (level 2)

APPROACH

The Flexible Framework is almost exclusively limited to procurement. Being specific allows it to be rather detailed, which has led to its adoption as the most widely used tool for sustainable procurement across the UK. It is a self-assessment tool designed by the UK Government’s Sustainable Procurement Task Force. It is mapped at Level 2.

STRENGTHS

The Flexible Framework is indeed ‘flexible’ and has been designed to suit the needs of all organisations, despite their size; it is applicable in all institutions. Additionally, it offers simplicity and clarity with its guidance, characteristics crucial to a tool which requires self-assessment. It breaks down actions into 5 distinct areas: ‘People’, ‘Policy’, ‘Process’, ‘Suppliers’ and ‘Results’. Each of these areas has 5 levels. Once institutions fulfil each criterion in these five areas for Level 1 they can move onto working to fulfil Level 2 criteria. Thus, breaking down all aspects of procurement into areas and levels simplifies the task of applying sustainability principles.

LIFE WHOLE INSTITUTION COMPARISON

The Flexible Framework has been adapted into LiFE’s Procurement Framework. Where all other LiFE Frameworks have 8 Activity Areas to work through, the Procurement Framework is distinct since it aligns itself to the Flexible Framework structure. For this research, it was important to segregate LiFE from the Flexible Framework. To achieve this, the Procurement Framework was subjected to the 8 Activity Areas like all of the other Frameworks, and the Flexible Framework was mapped onto that at Level 2. Interestingly enough, despite being embedded into LiFE, when the Flexible Framework was separated and mapped onto LiFE Procurement if it had 8 Activity Areas, it did not achieve a 100% score in the mapping. The Flexible Framework achieved a Gold in all Activity Areas of the Framework besides Link to Curriculum, which it does not address. This is because the Flexible Framework is a generic tool not specific to FHE.

Learning, Teaching & Research			Leadership & Governance		Estates & Operations						Partnership & Engagement		
Research	Learning	Student	Leader-ship	Staff Engagem	Bio-diversity	Sustain-able ICT	Utilities	Travel/Transpor	Sustain Construc	Waste & Resourc	Public Engage	Business Interface	Procure-ment
No award	No award	No award	Starting	No award	No award	No award	No award	No award	No award	No award	No award	No award	Gold
No award			Starting		Starting						Bronze		



APPROACH

Responsible Futures is an NUS-led externally assessed accreditation programme which helps FHE institutions embed sustainability into the formal and informal curriculum. The core of the programme is the formation of a partnership that consists of representatives from the students' union and the institution. The partnership works closely together through a structured workbook of criteria, 10 of which are mandatory. The criteria span eight areas: Benchmarking and baselining; Partnership and plan; Leadership and strategy; Policy and commitment; Interventions; Impact and outcomes; Outreach and Self-defined areas. To achieve the accreditation mark, the partnership must meet the threshold of 200 points out of a maximum of 300 points, not including the self-defined criteria.

STRENGTHS

Responsible Futures' core focus is the curriculum, recognised as the most important and impactful aspect of sustainability in FHE, so far inadequately addressed by the majority of existing tools.

Responsible Futures promotes meaningful student engagement as it necessitates student participation for the fulfilment of all criteria. It also encourages student research on sustainability by making the use of sustainability student coursework one of its mandatory criteria. Finally, a really strong point of the tool is the fact that it specifies routine collaboration of the estates team with learning and teaching staff to create educational opportunities. Partnerships are audited by a team of trained students convened by NUS, resulting in an externally verified audit report. Accreditations are awarded annually and last for three years.

LIFE WHOLE INSTITUTION COMPARISON

Responsible Futures can readily cover the Learning and Teaching, Student and Staff Engagement frameworks of LiFE and this is why it was given the full LiFE score in these areas. Even though the tool comprehensively provides for sustainability curriculum and student coursework/dissertations, it does not explicitly address academic-led research. This is the reason for it being given only one third of the LiFE points under the Research framework. Responsible Futures cannot be implemented by a single institution manager, instead it requires the establishment of a staff-student partnership which works on all aspects collectively. In that respect it is similar to LiFE which necessitates Stakeholder (student and staff) Engagement across all fourteen of its frameworks. Responsible Futures also adopts a whole-institution approach but this definition of 'whole-institution' is different to the one adopted in LiFE. Whole institution of Responsible Futures refers to the institution and students working together in partnership.

Learning, Teaching & Research			Leadership & Governance		Estates & Operations						Partnership & Engagement		
Research	Learning Teaching	Student Engagem	Leader-ship	Staff Engagem	Bio-diversity	Sustain-able ICT	Utilities	Travel/Transpor	Sustain Construc	Waste & Resourc	Public Engage	Business Interface	Procure-ment
Starting	Gold	Gold	Gold	Silver	Starting	Starting	Starting	Starting	Starting	Starting	Gold	No award	No award
Silver			Gold		Starting						Bronze		
Bronze													

APPROACH

SustainaBUL was initiated in 2012 by *Studenten voor Morgen* to provide assessment of sustainability among Dutch FHE institutions. All Dutch universities have to complete a questionnaire consisting of 37 items, while lately 'universities of applied sciences' have also been invited to participate. Every answer has to be supported by university policy documents to secure validity. In 2014, extra indicators were added for education and research while the focus on operations decreased.

STRENGTHS

The ranking is drawn up and assessed by students rather than a professional organisation. In that it resembles the People and Planet University League which is also run and audited by a student organisation. It offers many indicators on education and research being aligned with the manifesto of *Studenten voor Morgen*, a powerful example of an increasingly assertive student voice on sustainability.⁸ The ranking places a lot of emphasis on transparency and entails criteria that require institutions to make all their business data publicly available. Moreover, SustainaBUL challenges tertiary education institutions to decide on their definition of sustainability by having a criterion explicitly asking for it.

LIFE WHOLE INSTITUTION COMPARISON

A small questionnaire of 37 items, SustainaBUL maps out sparsely over LiFE. It performs most strongly in the Learning & Teaching and Staff Engagement Frameworks with Silver in the LiFE map. It also attains a Bronze in the Research Framework, addressing one of the most important and core areas within HE institutions that the majority of other tools do not consider at all. Every year, new insights are used to renew the questionnaire and while keeping up to date is useful, the constant alteration of indicators might hinder planning and goal-setting for participating FHE institutions.

There are areas that SustainaBUL addresses which are not covered by LiFE, like investing in sustainable transition and divesting from fossil fuels. SustainaBUL also contains a separate criterion necessitating an institutional policy on the reduction of food waste. Another aspect that SustainaBUL stresses more than LiFE is free public access to university sustainability expertise, in the form of open-access MOOCs or consultation sessions with the public.

Learning, Teaching & Research			Leadership & Governance		Estates & Operations						Partnership & Engagement		
Research	Learning Teaching	Student Engagem	Leadership	Staff Engagem	Bio-diversity	Sustain-able ICT	Utilities	Travel/Transport	Sustain-Construct	Waste & Resourc	Public Engage	Business Interface	Procurement
Bronze	Silver	Bronze	Bronze	Silver	Starting	No award	Bronze	Starting	No award	Bronze	Starting	Starting	Starting
Bronze			Bronze		Starting						Starting		
Bronze													



⁸ <http://www.studentenvoormorgen.nl/en/sustainabul-2/morgen-manifesto/>

UI GREEN METRIC (2015)

APPROACH

First launched in 2010, UI Green Metric offers a global assessment of university sustainability performance resulting in an annual league. Assessment is based on the institutions' self-assessed input, independent research conducted by the UI Green metric team and responses to the online UI Green Metric survey offered by the universities' administrators. Every year participation invitations are sent to over 3000 universities and those which accept become part of the global ranking. The 2016 list features 21 UK universities. Scoring for each item is numeric so that data can be processed statistically while the metric consists of six broad categories which are weighted as follows: 1. Setting and infrastructure (15%); 2. Energy and climate change (21%); 3. Waste (18%); 4. Water (10%); 5. Transportation (18%); 6. Education (18%).

STRENGTHS

For each item, collecting and submitting the numeric data is relatively straightforward and makes no unreasonable demands on staff time. Some of the criteria provide practical and efficient ways of measuring the specific areas. Two examples are highlighted here: ED2: Ratio of sustainability research funding towards total research funding, ED1: Ratio of sustainability courses towards total courses.⁹ Moreover, there are criteria in UI Green Metric that provide for areas not covered in LiFE. These include information on the university's zoning profile and the existence of a climate change adaptation and mitigation programme. The global scope of the tool and the opportunity it affords institutions to assess against a global ranking emerges as another strong point.

LIFE WHOLE INSTITUTION COMPARISON

The UI Green Metric criteria sparsely populate the LiFE map, and are mostly concentrated under the Estates & Operations Priority Area. As such the UI Green Metric indicators do not cover as broad a spectrum as LiFE indicators. For instance, under Education UI Green Metric adopts six criteria which ask for ratios and numbers while LiFE adopts 24 criteria for Education which encourage deep incorporation of the criteria in the university apparatus. In terms of methodological consistency, UI Green Metric has a new thematic focus every year while the methodology is adapted by adding new criteria and weightings. This versatile nature of the methodology does not facilitate goal setting for participating universities.

Learning, Teaching & Research			Leadership & Governance		Estates & Operations						Partnership & Engagement		
Research	Learning Teaching	Student Engagem	Leader-ship	Staff Engagem	Bio-diversity	Sustain-able ICT	Utilities	Travel/Transpor	Sustain Construc	Waste & Resourc	Public Engage	Business Interface	Procure-ment
Starting	Starting	Starting	No award	No award	Starting	No award	Bronze	Bronze	Starting	Starting	No award	No award	No award
			No award		Starting						No award		



⁹ <http://greenmetric.ui.ac.id/methodology/>

FINDINGS

From the visualisation of the integrated map (Appendix B) where all the tools can be seen under the LiFE framework, it can be noticed only one third of the tools in the sample adopt a whole-institution approach to sustainability (Figure 8).

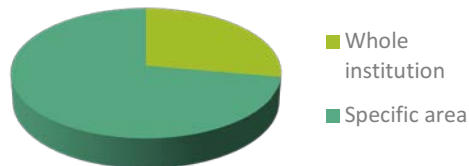


Figure 8: Whole institution approach tools in the sample.

The distribution of indicators (Appendix B) across the four priority areas reveals a bias towards the fields of estates and operations with areas like research, engagement with the community and business as well as education receiving relatively little attention. It appears that only four out of the nineteen tools address the area of Research, while only nine address the area of Learning and Teaching (Figure 9). Yet, research and education are the main services institutions are known for.

These findings are aligned with findings from previous similar studies. Yarime and Tanaka (2012) explored 16 sustainability assessment tools to find that the aspects of Education, Research and Outreach are under-represented in the tools' indicators. Fischer et al. (2015) also explored 12 tools from around the world to highlight the dominance of estates and operations and the marginalisation of educational aspects. The current exploration of 18 tools comes to replicate those previous findings showing that research, education and partnership creation are under-represented by most tools' indicators.

Thirdly, bottom-up or participatory implementation approach tools seem to better facilitate student engagement in sustainability. For instance, STARS and LiFE are tools that contain specific criteria for student engagement and thus encourage a bottom-up participatory approach to sustainability implementation.

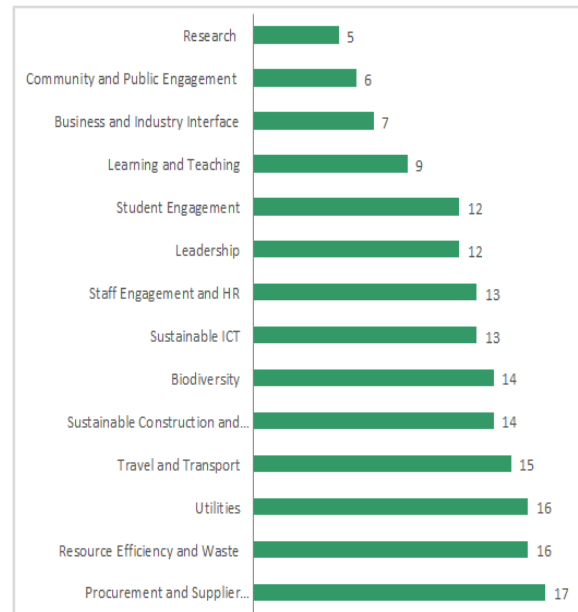


Figure 9: Number of tools addressing each framework.

The analysis of this diverse sample of tools with different orientations and purposes highlighted four key factors for their critical evaluation.

Firstly, it seems that tools or standards that have been designed specifically for the FHE sector are better aligned with the educational aspects of FHE institutions as they contain indicators that assess sustainability research, teaching and student engagement. In our sample all the FHE-specific tools have at least one criterion addressing education, teaching or research (Appendix B).

Secondly, independent third party verification acts as a stamp of quality increasing the credibility of the reported content.

Engaging students in sustainability emerges as a material issue for the UK HE sector as students have become literal shareholders of universities through paying increased tuition fees. Approximately 80% of students wish to see sustainability actively incorporated in their university experience (Drayson & Taylor, 2015) and engaging them in sustainability implementation can be seen as a strategic priority. Top-down approach tools on the other hand, like the ISO's are usually implemented by estates departments' teams without extensive student participation (Appendix C). However, the adoption of a top down or bottom up approach is greatly determined by the method of implementation followed by sustainability leaders at each FHE institution.

Finally, the comparison of all criteria against LiFE indicators brought to the surface areas not adequately covered by LiFE. The absence of criteria on responsible investment or divestment was seen as noteworthy at a time when the divestment movement is gaining considerable momentum in the UK FHE sector. LiFE was also found lacking criteria addressing workers' rights, student and staff wellbeing as well as equality and diversity. Moreover, climate change adaptation or mitigation criteria seem to be missing from LiFE while its Utilities Framework focuses on energy use reduction without provision for renewable energy generation or purchase. Finally, LiFE does not contain self-defined or innovation indicators that would allow institutions to showcase initiatives in areas not provided for by the tool. A full list of the gaps identified in LiFE can be seen in Table 4.

LIFE 'gaps'
Responsible investment
Innovation or self-defined criteria
Food as a distinct area of focus
Human rights approach
Climate change adaptation and mitigation
Diversity & equal opportunities
Living labs
Renewable energy creation and/or use
Relation with other institutions (sharing)
Health & safety
Social justice
Staff & student wellbeing/welfare
Public policy participation

Table 4: Areas not adequately addressed by LiFE

AUTHORS COMMENT

The current study has offered a comparative analysis of sustainability assessment and reporting systems important to UK FHE education institutions. The creation of the integrated map and subsequent analysis of the 18 tools provide a 'guidebook' which hopes to enable EAUC members to compare, contrast and critically evaluate the tools. The use of LiFE's whole institution approach as a framework facilitated the identification of tools which go 'beyond eco-efficiency' (Shriberg, 2002) addressing areas typically neglected by the majority of the tools like education, research and engagement. Research, in particular, is an issue to be addressed more extensively as the REF funding now flows towards sustainability research with real-world impact.

A limitation of the study stems from the nature of the data explored. The 'hard' quantitative indicators were easy to place in the 112 cells of the LiFE framework. The 'soft' descriptive indicators however, accommodated more than one interpretation. The latter were placed on the grid on the basis of the two coders' understanding of them. This means that the mapping of some of the tools might appear as slightly different when undertaken by a set of new coders.

PILOT INSTITUTIONAL ‘SUPER’ MAPS

The EAUC welcomes members’ interest in the trial phase to map institutions using the outputs of this research. In line with this project’s fourth goal, and to help institutions find a mechanism that would capture their whole institution sustainability activity, two pilot institutional ‘super’ maps have been constructed and are presented here with institution names removed. The maps provide an indication of the institution’s LiFE baseline which incorporates all the tools each institution has adopted into one picture. To this resulting LiFE baseline map, an institution would need to add its internal activities to complete the holistic picture of sustainability across the organisation. This would provide for a strong gap-analysis and might help the institution avoid duplication of efforts. It also offers flexibility in practical implementation since an institution may choose its most suitable pathway to address the gaps, whether it is through external tools or in-house activity/programmes.

Anonymous institution A is presented below (figure 6). Institution A would begin LiFE with this advanced starting point that incorporates their external tool-related achievements. These include BREEAM (with an institutional policy of a minimum Very Good accreditation for all new buildings and refurbishments); Flexible Framework (more than Level 2 achieved); Green Impact (with an institution-wide campaign underway); and Fairtrade (certification held). Institution A achieves an indicative Bronze rating.

4 Priority Areas	Learning, Teaching & Research			Leadership & Governance		Estates & Operations						Partnership & Engagement		
14 Frameworks	Research	Learning/ Teaching	Student Engage	Leader- ship	Staff Engage	Bio- diversity	Sustain- able ICT	Utilities	Travel/ Transport	Sustain Construct	Waste & Resource	Public Engage	Business Interface	Procurement
8 Activity Areas														
Policy and Strategy														
Action Planning														
Stakeholder Engage														
Measurement														
Communication														
Training and Support														
Implementation														
Link to Curriculum														
Framework Totals	0	7	25	0	38	50	20	38	48	85	27	0	0	95
Priority Area Averages	8			19		26						32		
Total Average	Bronze													

Figure 6: Anonymous institution A

Institution B has accomplished three tools. These are ISO 14001; ISO 50001 certification, and BREEAM. The ISO 14001 has been mapped in its full extent, i.e. it has not been selectively limited in its scope but fully applied in all Frameworks that it originally covers. The institution’s LiFE baseline map is presented below (figure 7), showing the focus and gaps that their external tool-related activities have created. Institution B achieves an even more encouraging indicative Silver rating.

Both institutions must yet add their internal programmes and activities before the LiFE map is complete. Thereafter, the institutions will have an updated image of their organisation-wide sustainability efforts. With the continual assistance of LiFE, they can choose to either implement internal programmes or add any suitable external tools or carry out a combination of both to address the remaining gaps.

4 Priority Areas	Learning, Teaching & Research			Leadership & Governance		Estates & Operations						Partnership & Engagement		
14 Frameworks	Research	Learning/ Teaching	Student Engage	Leader- ship	Staff Engage	Bio- diversity	Sustain- able ICT	Utilities	Travel/ Transport	Sustain Construct	Waste & Resource	Public Engage	Business Interface	Procurement
8 Activity Areas														
Policy and Strategy														
Action Planning														
Stakeholder Engage														
Measurement														
Communication														
Training and Support														
Implementation														
Link to Curriculum														
Framework Totals	0	0	0	85	38	78	78	78	78	85	78	0	0	78
Priority Area Averages	0			62		42						26		
Total Average	Silver													

Figure 7: Anonymous institution B

CONCLUSION

The Sustainability Mapping research hopes to have offered a clearer image of the plethora of sustainability assessment/reporting tools available to UK FHE institutions. The plurality and diversity of the tools affords great potential for customised sustainability assessment and reporting.

As suggested by Fischer et al. (2015) current sustainability assessment tools will shape the evolution of FHE sustainability in the future, since apart from enabling and performance improving they are also agenda setting mechanisms which draw institutions' sustainability activity to new directions. It is up to sustainability leaders with a whole institutional vision to choose tools that move beyond estates, addressing amongst others, the educational aspects of FHE institutions.

LOOKING AHEAD

After receiving early positive feedback, a second phase is being considered for this research with more tools to be mapped at different levels and more institutional maps to be created. In parallel to this research, the EAUC has commissioned ARUP to develop the accreditation process for LiFE, as an option for institutions aspiring for external recognition. In this context, a future LiFE which potentially combines external tools with in-house activities could be published by institutions as an externally accredited image of all their achievements. Reflecting the spirit of EAUC's approach, any accreditation process would be non-compulsory, face-to-face, constructive, positive and not penalising. Publication of the accreditation result would also be optional; some may choose to use accreditation as an internal independent reviewing opportunity. This approach is not set to endorse any specific tool, but instead, provides the option for efficient use of external tools and/or internal programmes.

Consideration is also being given to how this mapping research and the LiFE framework could help to widen the sustainability scope of the AUDE Green Scorecard. The EAUC recognises that there are multiple pathways to the same objective, and identifies its role as supporting

institutions towards finding and progressing through their best-suited pathways. In this respect, the EAUC continues a very open dialogue with members by inviting institutions to engage. We would like to know whether this has applicability in your institutional context, whether we have missed drivers which are critical to your institution and we welcome suggestions for future tools to be mapped.

A list of gaps in LiFE has been developed as part of the mapping process. In time and in consultation with EAUC members LiFE will be updated and improved. Taking into account all the feedback and research results thus far and after updating LiFE accordingly, the EAUC view is that LiFE has the potential to act as a sector whole-institution standard setter.

Members are welcome to participate in this ongoing mapping process. The reasoning behind this project is to provide institutions with encouragement, advice and help. This will be best achieved if institutions willingly join the process towards better shaping and co-creating an approach which organically emerges from the sector itself. To discuss the findings, to be involved in this process or for any further information and guidance, please contact Iain Patton at info@eauc.org.uk.

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APPENDIX A

AUDE Green Scorecard

4 Priority Areas	Learning, Teaching & Research			Leadership & Governance		Estates & Operations						Partnership & Engagement		
14 Frameworks	Research	Learning & Teaching	Student Engagement	Leadership	Staff Engagement & PR	Biodiversity	Sustainable ICT	Utilities	Travel & Transport	Sustainable Construction & Renovation	Resource Efficiency & Waste	Community & Public Engagement	Business & Industry Interface	Procurement & Supplier Engagement
8 Activity Areas														
Policy and Strategy						3				3	1			2
Action Planning						3	1	2	2	3				2
Stakeholder Engage										1				
Measurement							1	3	3	3	3			
Communication			1		1		1	2		2				
Training and Support														
Implementation						3	1	3	3	2	3			
Link to Curriculum														
Framework Totals	0	0	2	0	2	40	18	50	47	62	43	0	0	13
Priority Area Averages	0			1		43						4		
Total Average	12 Starting													

BREEAM (OUTSTANDING)

4 Priority Areas	Learning, Teaching & Research			Leadership & Governance		Estates & Operations						Partnership & Engagement		
14 Frameworks	Research	Learning & Teaching	Student Engagement	Leadership	Staff Engagement & PR	Biodiversity	Sustainable ICT	Utilities	Travel & Transport	Sustainable Construction & Renovation	Resource Efficiency & Waste	Community & Public Engagement	Business & Industry Interface	Procurement & Supplier Engagement
8 Activity Areas														
Policy and Strategy										3				
Action Planning						2		2	2	3	2			2
Stakeholder Engage						2			2	3				
Measurement						2		2	2	3	1			2
Communication						2			2	3				
Training and Support						2				3				
Implementation						2	2	2	2	3	2			2
Link to Curriculum														
Framework Totals	0	0	0	0	0	50	13	33	47	85	27	0	0	33
Priority Area Averages	0			0		42						11		
Total Average	13													
	Starting													

CARBON TRUST STANDARDS

4 Priority Areas	Learning, Teaching & Research			Leadership & Governance		Estates & Operations						Partnership & Engagement		
14 Frameworks	Research	Learning & Teaching	Student Engagement	Leadership	Staff Engagement & PR	Biodiversity	Sustainable ICT	Utilities	Travel & Transport	Sustainable Construction & Renovation	Resource Efficiency & Waste	Community & Public Engagement	Business & Industry Interface	Procurement & Supplier Engagement
8 Activity Areas														
Policy and Strategy							1	3	3		3			3
Action Planning							1	3	3		3			3
Stakeholder Engage								2						
Measurement							1	3	3	2	3			
Communication					2		1	3	3		3			
Training and Support								3	3		3			
Implementation					2			3	3		3			
Link to Curriculum								3	3					
Framework Totals	0	0	0	0	17	0	15	80	70	13	70	0	0	20
Priority Area Averages	0			8		41						7		
Total Average	14													
	Starting													

ECOCAMPUS BRONZE

4 Priority Areas	Learning, Teaching & Research			Leadership & Governance		Estates & Operations						Partnership & Engagement		
14 Frameworks	Research	Learning & Teaching	Student Engagement	Leadership	Staff Engagement & PR	Biodiversity	Sustainable ICT	Utilities	Travel & Transport	Sustainable Construction & Renovation	Resource Efficiency & Waste	Community & Public Engagement	Business & Industry Interface	Procurement & Supplier Engagement
8 Activity Areas														
Policy and Strategy				3										
Action Planning					3			3	3		3		2	3
Stakeholder Engage		3	1	3	3	2	2	3	3	2	3			
Measurement		3	1	3	1		2	3	3	2	3		2	3
Communication				3										
Training and Support				3										
Implementation				3										
Link to Curriculum														
Framework Totals	0	35	12	75	32	10	23	45	45	23	45	0	20	30
Priority Area Averages	12			53		32						17		
Total Average	28													
	Bronze													

ECOCAMPUS SILVER

4 Priority Areas	Learning, Teaching & Research			Leadership & Governance		Estates & Operations						Partnership & Engagement		
14 Frameworks	Research	Learning & Teaching	Student Engagement	Leadership	Staff Engagement & PR	Biodiversity	Sustainable ICT	Utilities	Travel & Transport	Sustainable Construction & Renovation	Resource Efficiency & Waste	Community & Public Engagement	Business & Industry Interface	Procurement & Supplier Engagement
8 Activity Areas														
Policy and Strategy		3		3		2	1	3	3	2	3			3
Action Planning		3		3	3	2	1	3	3	2	3		2	3
Stakeholder Engage		3	1	3	3	2	1	3	3	2	3			
Measurement		3	1	3	1		1	3	3	2	3		2	3
Communication				3										
Training and Support				3										
Implementation				3										
Link to Curriculum														
Framework Totals	0	55	12	85	32	23	18	55	55	37	55	0	20	40
Priority Area Averages	17			58		41						20		
Total Average	34													
	Bronze													

ECOCAMPUS GOLD

4 Priority Areas	Learning, Teaching & Research			Leadership & Governance		Estates & Operations						Partnership & Engagement		
14 Frameworks	Research	Learning & Teaching	Student Engagement	Leadership	Staff Engagement & PR	Biodiversity	Sustainable ICT	Utilities	Travel & Transport	Sustainable Construction & Renovation	Resource Efficiency & Waste	Community & Public Engagement	Business & Industry Interface	Procurement & Supplier Engagement
8 Activity Areas														
Policy and Strategy		3		3	3	2	1	3	3	2	3			3
Action Planning		3		3	3	2	1	3	3	2	3		2	3
Stakeholder Engage		3	1	3	3	2	1	3	3	2	3		2	3
Measurement		3	1	3	1		1	3	3	2	3		2	3
Communication		3		3	3			3	3		3		2	3
Training and Support		3		3	3			3	3		3			3
Implementation				3										
Link to Curriculum														
Framework Totals	0	65	12	85	52	23	18	65	65	37	65	0	33	65
Priority Area Averages	19			68		46						33		
Total Average	41													
	Silver													

FAIRTRADE

4 Priority Areas	Learning, Teaching & Research			Leadership & Governance		Estates & Operations						Partnership & Engagement		
14 Frameworks	Research	Learning & Teaching	Student Engagement	Leadership	Staff Engagement & PR	Biodiversity	Sustainable ICT	Utilities	Travel & Transport	Sustainable Construction & Renovation	Resource Efficiency & Waste	Community & Public Engagement	Business & Industry Interface	Procurement & Supplier Engagement
8 Activity Areas														
Policy and Strategy			1											2
Action Planning														
Stakeholder Engage			1											2
Measurement														
Communication														2
Training and Support														
Implementation		1												2
Link to Curriculum														2
Framework Totals	0	7	8	0	0	0	0	0	0	0	0	0	0	43
Priority Area Averages	4			0		0						14		
Total Average	5													
	Starting													

FOOD FOR LIFE

4 Priority Areas	Learning, Teaching & Research			Leadership & Governance		Estates & Operations						Partnership & Engagement		
14 Frameworks	Research	Learning & Teaching	Student Engagement	Leadership	Staff Engagement & PR	Biodiversity	Sustainable ICT	Utilities	Travel & Transport	Sustainable Construction & Renovation	Resource Efficiency & Waste	Community & Public Engagement	Business & Industry Interface	Procurement & Supplier Engagement
8 Activity Areas														
Policy and Strategy														2
Action Planning														2
Stakeholder Engage														2
Measurement											1			2
Communication														2
Training and Support														2
Implementation											1			2
Link to Curriculum														
Framework Totals	0	0	0	0	0	0	0	0	0	0	13	0	0	57
Priority Area Averages	0			0		2						19		
Total Average	5													
	Starting													

GREEN IMPACT (BRONZE)

4 Priority Areas	Learning, Teaching & Research			Leadership & Governance		Estates & Operations						Partnership & Engagement		
14 Frameworks	Research	Learning & Teaching	Student Engagement	Leadership	Staff Engagement & PR	Biodiversity	Sustainable ICT	Utilities	Travel & Transport	Sustainable Construction & Renovation	Resource Efficiency & Waste	Community & Public Engagement	Business & Industry Interface	Procurement & Supplier Engagement
8 Activity Areas														
Policy and Strategy							2	2	2		2			2
Action Planning					1									
Stakeholder Engage					3									
Measurement														
Communication			3					3	3					2
Training and Support			3											
Implementation			1		2	1					2			
Link to Curriculum														
Framework Totals	0	0	17	0	38	7	7	12	12	0	20	0	0	10
Priority Area Averages	4			19		9						3		
Total Average	9													
	Starting													

GRI G4

4 Priority Areas	Learning, Teaching & Research			Leadership & Governance		Estates & Operations						Partnership & Engagement		
14 Frameworks	Research	Learning & Teaching	Student Engagement	Leadership	Staff Engagement & PR	Biodiversity	Sustainable ICT	Utilities	Travel & Transport	Sustainable Construction & Renovation	Resource Efficiency & Waste	Community & Public Engagement	Business & Industry Interface	Procurement & Supplier Engagement
8 Activity Areas														
Policy and Strategy				3		3		3	3			3		3
Action Planning				3										
Stakeholder Engage				3										
Measurement			1	3	3	3	1	3	3	1	3	3		3
Communication			1	3	3	3	1	3	3	1	3	3		3
Training and Support				3										
Implementation				3										
Link to Curriculum														
Framework Totals	0	0	8	85	35	35	8	35	35	8	25	35	0	35
Priority Area Averages	2			60		24						23		
Total Average	27													
	Bronze													

ICSN GULF Charter

4 Priority Areas	Learning, Teaching & Research			Leadership & Governance		Estates & Operations						Partnership & Engagement		
14 Frameworks	Research	Learning & Teaching	Student Engagement	Leadership	Staff Engagement & PR	Biodiversity	Sustainable ICT	Utilities	Travel & Transport	Sustainable Construction & Renovation	Resource Efficiency & Waste	Community & Public Engagement	Business & Industry Interface	Procurement & Supplier Engagement
8 Activity Areas														
Policy and Strategy	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Action Planning	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Stakeholder Engage														
Measurement	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Communication														
Training and Support														
Implementation	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Link to Curriculum	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Framework Totals	25	25	25	25	25	25	25	25	25	25	25	25	25	25
Priority Area Averages	25			25		25						25		
Total Average	25 Bronze													

ISO 14000 (2015)

4 Priority Areas	Learning, Teaching & Research			Leadership & Governance		Estates & Operations						Partnership & Engagement		
14 Frameworks	Research	Learning & Teaching	Student Engagement	Leadership	Staff Engagement & PR	Biodiversity	Sustainable ICT	Utilities	Travel & Transport	Sustainable Construction & Renovation	Resource Efficiency & Waste	Community & Public Engagement	Business & Industry Interface	Procurement & Supplier Engagement
8 Activity Areas														
Policy and Strategy				3	2	3	1	3	3	3	3			3
Action Planning				3	2	3	1	3	3	3	3			3
Stakeholder Engage				3	3	3	1	3	3	3	3			3
Measurement				3		3	1	3	3	3	3			3
Communication				3	3	3	1	3	3	3	3			3
Training and Support				3	3	3	1	3	3	3	3			3
Implementation				3										
Link to Curriculum														
Framework Totals	0	0	0	85	38	65	22	65	65	65	65	0	0	65
Priority Area Averages	0			62		58						22		
Total Average	35													
	Bronze													

ISO 26000

4 Priority Areas	Learning, Teaching & Research			Leadership & Governance		Estates & Operations						Partnership & Engagement		
14 Frameworks	Research	Learning & Teaching	Student Engagement	Leadership	Staff Engagement & PR	Biodiversity	Sustainable ICT	Utilities	Travel & Transport	Sustainable Construction & Renovation	Resource Efficiency & Waste	Community & Public Engagement	Business & Industry Interface	Procurement & Supplier Engagement
8 Activity Areas														
Policy and Strategy			1	3	2	3		3	2		3	3	3	3
Action Planning				3	2	3	1	3	2	1	3	3		3
Stakeholder Engage				3	2			2	2		2	3		
Measurement				3	2	3	1	3	2	1	3	2		
Communication				3	2									
Training and Support				3	2							3		
Implementation				3		3	1	2	2	2	2	3		3
Link to Curriculum														
Framework Totals	0	0	3	85	43	60	17	63	50	23	63	73	10	40
Priority Area Averages	1			64		46						41		
Total Average	38 Bronze													

ISO 50001

4 Priority Areas	Learning, Teaching & Research			Leadership & Governance		Estates & Operations						Partnership & Engagement		
14 Frameworks	Research	Learning & Teaching	Student Engagement	Leadership	Staff Engagement & PR	Biodiversity	Sustainable ICT	Utilities	Travel & Transport	Sustainable Construction & Renovation	Resource Efficiency & Waste	Community & Public Engagement	Business & Industry Interface	Procurement & Supplier Engagement
8 Activity Areas														
Policy and Strategy				2				2		2				2
Action Planning				2				2						
Stakeholder Engage				2				2						
Measurement				2				2						
Communication				2				2						2
Training and Support				2				2						
Implementation								2						
Link to Curriculum														
Framework Totals	0	0	0	43	0	0	0	57	0	7	0	0	0	10
Priority Area Averages	0			22		11						3		
Total Average	9													
	Starting													

STARS

4 Priority Areas	Learning, Teaching & Research			Leadership & Governance		Estates & Operations						Partnership & Engagement		
14 Frameworks	Research	Learning & Teaching	Student Engagement	Leadership	Staff Engagement & PR	Biodiversity	Sustainable ICT	Utilities	Travel & Transport	Sustainable Construction & Renovation	Resource Efficiency & Waste	Community & Public Engagement	Business & Industry Interface	Procurement & Supplier Engagement
8 Activity Areas														
Policy and Strategy	3	3	3	3	3	3	2	3	3	3	3	3	3	3
Action Planning	3	3	3	3	3	3	1	3	3	3	3	3	2	3
Stakeholder Engage	3	2	3	3	3							3	2	
Measurement	3	3	3	3	3	3	1	3	3	3	3	3		3
Communication	3	3	3	3	3	2	2	2	3	2	2	3	2	2
Training and Support	3	3	2		3									
Implementation	3	3	3	2	3		2	3	3	3	3	3		3
Link to Curriculum	3	3	3		3	3		3	3	3	3	3		3
Framework Totals	100	95	98	73	100	58	33	78	80	78	78	95	30	78
Priority Area Averages	98			87		68						68		
Total Average	80													
	Gold													

UNIVERSITY LEAGUE

4 Priority Areas	Learning, Teaching & Research			Leadership & Governance		Estates & Operations						Partnership & Engagement		
14 Frameworks	Research	Learning & Teaching	Student Engagement	Leadership	Staff Engagement & PR	Biodiversity	Sustainable ICT	Utilities	Travel & Transport	Sustainable Construction & Renovation	Resource Efficiency & Waste	Community & Public Engagement	Business & Industry Interface	Procurement & Supplier Engagement
8 Activity Areas														
Policy and Strategy		3	3	3	3	3		3	3	3	3	3		3
Action Planning		3	3		3	3		3	3	3	3	3		3
Stakeholder Engage		3	3	3	3	3		3	3	3	3	3		3
Measurement		3	3	3	3	1		3	3	1	2			2
Communication		3	3	1	3	1		3	2	1	2	1		2
Training and Support		3	3	2	3	1		2	1	1	1	1		1
Implementation		3	3	1	3			3				1	1	1
Link to Curriculum	3	3	3		3	3	3	3	3	3	3			
Framework Totals	15	100	100	57	100	60	15	98	75	60	68	45	7	60
Priority Area Averages	57			78		63						37		
Total Average	59													
	Silver													

PROCUREMENT FLEXIBLE FRAMEWORK (Level 2)

4 Priority Areas	Learning, Teaching & Research			Leadership & Governance		Estates & Operations						Partnership & Engagement		
14 Frameworks	Research	Learning & Teaching	Student Engagement	Leadership	Staff Engagement & PR	Biodiversity	Sustainable ICT	Utilities	Travel & Transport	Sustainable Construction & Renovation	Resource Efficiency & Waste	Community & Public Engagement	Business & Industry Interface	Procurement & Supplier Engagement
8 Activity Areas														
Policy and Strategy				2										3
Action Planning														3
Stakeholder Engage														3
Measurement														3
Communication														3
Training and Support														3
Implementation														3
Link to Curriculum														3
Framework Totals	0	0	0	7	0	0	0	0	0	0	0	0	0	85
Priority Area Averages	0			3		0						28		
Total Average	8													
	Starting													

RESPONSIBLE FUTURES

4 Priority Areas	Learning, Teaching & Research			Leadership & Governance		Estates & Operations						Partnership & Engagement		
14 Frameworks	Research	Learning & Teaching	Student Engagement	Leadership	Staff Engagement & PR	Biodiversity	Sustainable ICT	Utilities	Travel & Transport	Sustainable Construction & Renovation	Resource Efficiency & Waste	Community & Public Engagement	Business & Industry Interface	Procurement & Supplier Engagement
8 Activity Areas														
Policy and Strategy		3	3	3	1									
Action Planning	1	3	3	3										
Stakeholder Engage		3	3	3	1							3		
Measurement		3	3	3	3							3		
Communication		3	3	3	3									
Training and Support		3	1	3	1									
Implementation		3	3	3	2							3		
Link to Curriculum		3	3		2	2	2	2	2	2	2	2		
Framework Totals	3	100	97	85	58	10	10	10	10	10	10	65	0	0
Priority Area Averages	51			72		10						22		
Total Average	39													
	Bronze													

SustainaBUL

4 Priority Areas	Learning, Teaching & Research			Leadership & Governance		Estates & Operations						Partnership & Engagement		
14 Frameworks	Research	Learning & Teaching	Student Engagement	Leadership	Staff Engagement & PR	Biodiversity	Sustainable ICT	Utilities	Travel & Transport	Sustainable Construction & Renovation	Resource Efficiency & Waste	Community & Public Engagement	Business & Industry Interface	Procurement & Supplier Engagement
8 Activity Areas														
Policy and Strategy		2		3	2						2	1	1	2
Action Planning		2											1	2
Stakeholder Engage	2		3	3	3									
Measurement								2			2			
Communication	3	2		2				2	2		2			2
Training and Support	2	2												
Implementation	2	3	3		3			2				2		
Link to Curriculum						3								
Framework Totals	32	40	35	28	42	15	0	30	3	0	23	17	7	17
Priority Area Averages	35			35		12						13		
Total Average	24													
	Bronze													

UI GREEN METRIC (2015)

4 Priority Areas	Learning, Teaching & Research			Leadership & Governance		Estates & Operations						Partnership & Engagement		
14 Frameworks	Research	Learning & Teaching	Student Engagement	Leadership	Staff Engagement & PR	Biodiversity	Sustainable ICT	Utilities	Travel & Transport	Sustainable Construction & Renovation	Resource Efficiency & Waste	Community & Public Engagement	Business & Industry Interface	Procurement & Supplier Engagement
8 Activity Areas														
Policy and Strategy								3	3		3			
Action Planning														
Stakeholder Engage														
Measurement	2	2	1			1		2	2					
Communication														
Training and Support														
Implementation								1	1	1				
Link to Curriculum														
Framework Totals	13	13	7	0	0	7	0	30	30	7	10	0	0	0
Priority Area Averages	12			0				14				0		
Total Average	6													
	Starting													

APPENDIX B

4 Priority Areas	Learning, Teaching & Research			Leadership & Governance		Estates & Operations						Partnership & Engagement		
14 Frameworks	Research	Learning/ Teaching	Student Engage	Leadership	Staff Engage	Bio-diversity	Sustain-able ICT	Utilities	Travel/ Transport	Sustain Construct	Waste & Resource	Public Engage	Business Interface	Procure-ment
Green Scorecard														
BREEAM														
Carbon Trust Standards														
Fair Trade														
Food for Life														
GRI														
ISCN-GULF Charter														
STARS														
Flexible Framework														
ISO 26000														
Responsible Futures														
UI Green Metric														
Eco-Campus Bronze														
Eco-Campus Silver														
Eco-Campus Gold														
Green Impact Bronze														
ISO 14001														
ISO 50001														
Dutch SustainaBul														
P&P University League														

APPENDIX C

	DESIGNED FOR THE HE SECTOR		WHOLE INSTITUTION APPLICABILITY		ACCREDITATION			DURATION OF CERTIFICATION			SCOPE	
	SECTORAL	CROSS SECTORAL	HOLISTIC	SPECIFIC AREA	RANKING	CERTIFICATION	GUIDANCE	1 YEAR	2 YEARS	3 YEARS	NATIONAL	INTERNATIONAL
TOOLS												
University League	University league		University league		University league			University league			University league	
STARS	STARS		STARS			STARS				STARS		STARS
EcoCampus	EcoCampus			EcoCampus		EcoCampus		EcoCampus			EcoCampus	
Green Impact	Green Impact			Green Impact		Green Impact		Green Impact			Green Impact	
ISO 14001		ISO 140001		ISO 140001		ISO 140001				ISO 140001		ISO 140001
ISO 50001		ISO 50001		ISO 50001		ISO 50001				ISO 50001		ISO 50001
Responsible Futures	Resp. Futures			Resp. Futures		Resp. Futures				Resp. Futures		Resp. Futures
Flex Framework		Flex Framework		Flex Framework		Flex Framework		Flex Framework			Flex Framework	
Fair Trade		Fair Trade		Fair Trade		Fair Trade				Fair Trade		Fair Trade
Food for Life		Food for LIFE		Food for LIFE		Food for LIFE		Food for LIFE			Food for LIFE	
Carbon Trust		Carbon Trust		Carbon Trust		Carbon Trust			Carbon Trust			Carbon Trust
Dutch SustainaBul	Dutch SustainaBul		Dutch SustainaBul		Dutch SustainaBul			Dutch SustainaBul			Dutch SustainaBul	
BREEAM		BREEAM		BREEAM		BREEAM		BREEAM				BREEAM
AUDE Green Scorecard	AUDE			AUDE		AUDE		AUDE			AUDE	
UI Green Metric	UI Green Metric		UI Green Metric		UI Green Metric							UI Green Metric
ISCN GULF Charter	ISCN-GULF Charter		ISCN-GULF Charter				ISCN-GULF Charter	ISCN-GULF Charter				ISCN-GULF Charter
GRI		GRI		GRI			GRI	N/A				GRI
ISO26000		ISO26000		ISO26000			ISO26000	N/A				ISO26000
PARTICIPATORY												
TOP-DOWN												

APPENDIX D

The Dashboard: The following tables constitute the Dashboard which displays all tools according to the LiFE scoring mechanism described in the Methodology section above. The tools are not arranged according to any particular order. The first row of awards for each tool corresponds to the LiFE Frameworks, the second row refers to the Priority Areas, and the final row provides the LiFE Whole Institutional Award.

1. Firstly, it displays the degree of alignment of each tool, i.e. the breadth and depth compared to particular Frameworks
2. It also displays how much impact a tool has in the context of the whole institution
3. The Dashboard allows comparative analysis to show which gaps are not addressed by tools, which areas most tools tend to focus on, what areas have received the most attention, and how tools overlap or fit within an institutional context.

4 Priority Areas	Learning, Teaching & Research			Leadership & Governance		Estates & Operations						Partnership & Engagement		
14 Frameworks	Research	Learning & Teaching	Student Engagement	Leadership	Staff Engagement & PR	Biodiversity	Sustainable ICT	Utilities	Travel & Transport	Sustainable Construction & Renovation	Resource Efficiency & Waste	Community & Public Engagement	Business & Industry Interface	Procurement & Supplier Engagement
Green Scorecard	0	0	2	0	2	40	18	50	47	62	43	0	0	13
	1			1		43						4		
	12													
	Starting													
BREEAM	0	0	0	0	0	50	13	33	47	85	27	0	0	33
	0			0		42						11		
	13													
	Starting													
Carbon Trust Standards	0	0	0	0	17	0	15	80	70	13	70	0	0	20
	0			8		41						7		
	14													
	Starting													
Fair Trade	0	7	8	0	0	0	0	0	0	0	0	0	0	43
	4			0		0						14		
	5													
	Starting													
Food for Life	0	0	0	0	0	0	0	0	0	0	13	0	0	57
	0			0		2						19		
	5													
	Starting													
GRI	0	0	8	85	35	35	8	35	35	8	25	35	0	35
	2			60		24						23		
	27													
	Bronze													
ISCN-GULF Charter	25	25	25	25	25	25	25	25	25	25	25	25	25	25
	25			25		25						25		
	25													
	Bronze													

STARS	100	95	98	73	100	58	33	78	80	78	78	95	30	78
	98			87		68						68		
	80													
	Gold													
Flexible Framework	0	0	0	7	0	0	0	0	0	0	0	0	0	85
	0			3		0						28		
	8													
	Starting													
ISO 26000	0	0	3	85	43	60	17	63	50	23	63	73	10	40
	1			64		46						41		
	38													
	Bronze													
Responsible Futures	3	100	97	85	58	10	10	10	10	10	10	65	0	0
	51			72		10						22		
	39													
	Bronze													
UI Green Metric	13	13	7	0	0	7	0	30	30	7	10	0	0	0
	12			0		14						0		
	6													
	Starting													
Eco-Campus Bronze	0	35	12	75	32	10	23	45	45	23	45	0	20	30
	12			53		32						17		
	28													
	Bronze													
Eco-Campus Silver	0	55	12	85	32	23	18	55	55	37	55	0	20	40
	17			58		41						20		
	34													
	Bronze													
Eco-Campus Gold	0	65	12	85	52	23	18	65	65	37	65	0	33	65
	19			68		46						33		
	41													
	Silver													

Green Impact Bronze	0	0	17	0	38	7	7	12	12	0	20	0	0	10
	4			19		9						3		
	9													
	Starting													
ISO 14001	0	0	0	85	38	65	22	65	65	65	65	0	0	65
	0			62		58						22		
	35													
	Bronze													
ISO 50001	0	0	0	43	0	0	0	57	0	7	0	0	0	10
	0			22		11						3		
	9													
	Starting													
Dutch SustainaBul	32	40	35	28	42	15	0	30	3	0	23	17	7	17
	35			35		12						13		
	24													
	Bronze													
P&P University League	15	100	100	57	100	60	15	98	75	60	68	45	7	60
	57			78		63						37		
	59													
	Silver													

Prepared and delivered by

